

3N Short Communication: Prescribing

Location: MR 121 – P1

#3N1 (132785) (Postgraduate Travel Award Winner)
837 European nearly graduates: a first multinational study of essential knowledge, skills and attitudes in clinical pharmacology and therapeutics

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Background: In order to prescribe safely and effectively, European medical graduates should have acquired a minimum set of prescribing competencies (knowledge, skills, attitudes) at the point of graduation. However, it has never been investigated whether this requirement is being met. Therefore, the aim of this multinational is to evaluate the essential knowledge, skills and attitudes in CPT of final-year medical students across European medical schools.

Summary of Work: In this descriptive, cross-sectional study, a formative standardized assessment and survey was conducted of 827 final-year medical students from 17 medical schools across 14 European countries (BE, DE, ES, GR, FR, HR, IT, LT, NL, PT, RS, RO, SE, UK). The assessment (web-based) consisted of 24 MCQs and 5 patient case descriptions. The assessment and survey were developed and validated by all participating European medical schools and reflected knowledge, skills and attitudes in CPT that graduates should possess. University are equally weighted in reported results.

Summary of Results: Overall, students had a mean knowledge score of 69.2% (SD 15.1), with lowest score in subdomain interactions and contraindications (49.8% [SD 21]). Regarding skills, 73.2% (61-82) of students' therapy choices was inappropriate, with 9.4% (6-15) being potentially harmful and 2.2% (1-4) potentially lethal. Higher rates of inappropriate choices were associated with traditional curricula ($p < 0.001$). At least one prescribing error was found in 69.4% of the items prescribed. Students showed a general lack of confidence about essential prescribing skills. Only 33% of the students felt adequately prepared for their future prescribing task as a doctor.

Discussion: Although there exists variation between the medical schools, our findings show an overall lack of prescribing competencies among European nearly graduates. This suggest that the undergraduate CPT education throughout Europe is insufficient leading to incompetent prescribers and potentially unsafe

medical care. There is an urgent need to develop a core curriculum in CPT that should be used throughout European medical schools.

Conclusion: This first multinational study shows that nearly graduated doctors in Europe lack essential prescribing competencies in clinical pharmacology and therapeutics which needs further attention.

Take Home Messages: - Nearly graduated doctors in Europe lack essential prescribing competencies. - Urgent need to develop a European core curriculum in clinical pharmacology and therapeutics.

#3N2 (133181)

Multidisciplinary teaching – an approach to prescribing education that works

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Background: Safe and appropriate prescribing presents a major challenge for qualified doctors, who are expected to practice this core clinical skill from day one in their first foundation post. From 2016, all F1 doctors are expected to pass the Prescribing Safety Assessment (PSA) before starting at their foundation schools.

Summary of Work: The University of Liverpool, School of Medicine implemented a new curriculum in 2014. As part of this, a pharmacist-led safe prescribing programme was designed for medical undergraduates. This focussed on the core competencies identified by the General Medical Council in preparation for the PSA and becoming an F1 doctor.

Summary of Results: A prescribing teaching programme that includes a range of lectures, small group workshops and ward based activities is now delivered by pharmacists at all NHS base hospitals affiliated to the University of Liverpool. The teaching focusses on high risk drugs assessed in the PSA (anticoagulants, antibiotics, insulin, opiates and fluids).

Discussion: Medical undergraduates were previously expected to develop the core knowledge, skill and clinical judgement that prescribing encompasses in a restricted amount of time without sufficient opportunity to practice their skill and obtain appropriate levels of feedback.

Conclusion: Pharmacists possess a unique skill set in relation to medicines management. However, the profession was previously under-utilised in the development of undergraduate training programmes involving safe and effective prescribing. Feedback from students indicates that pharmacist-led teaching forms a vital component of their preparation towards becoming an F1 doctor.

Take Home Messages: As a greater emphasis is placed upon the importance of multidisciplinary learning, prescribing education and patient safety, the role of a pharmacist within medical education should be re-defined.

#3N3 (133375)

E-learning: autonomous motivation required?

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Background: Although the use of e-learning is increasing in medical education, not much has been written on who will use e-learning when offered. Since e-learning is usually facultative and followed individually, it requires more student motivation than other educational methods. We aimed to investigate if residents' participation in e-learning on antibiotic prescribing (an area in which they often perceive a lack of knowledge) was associated with their motivation. Motivation is classified by Self-determination Theory into autonomous (originating from interest in learning or understanding the importance of learning) and controlled (originating from learning for CME credits or other rewards) motivation. We used Relative Autonomous Motivation (RAM), which measures an individual's overall Autonomous Motivation (AM) after correcting for their Controlled Motivation (CM).

Summary of Work: We conducted a cross-sectional survey study. Residents who filled out the survey including antibiotic knowledge and motivation (Self-Regulation Questionnaire-Academic (SRQ-a)) were granted access to an e-learning module on antibiotic prescribing (designed through Pscribe). We calculated RAM by subtracting CM-score from AM-score on the SRQ-a. We analyzed associations between RAM and participation in e-learning using logistic regression, adjusting for prior antibiotic knowledge.

Summary of Results: Residents from two teaching and two non-teaching hospitals participated, including 53 internal medicine, 8 cardiology, 5 geriatrics and 3 other. Mean age was 31.4 years, 77% were female and 32% had clinical experience ≥ 5 years. E-learning participation was 61% (n=42). RAM was positively associated with participation in all hospitals (adjusted odds ratio (OR) 2.7, 95% confidence interval (CI) 1.2-6.1, p=0.02), and in teaching hospitals specifically (adjusted OR 4.4, 95% CI 1.5-12.4, p=0.005).

Discussion: Our study shows that autonomous motivation is of great importance in e-learning participation.

Conclusion: A focus on increasing autonomous motivation for learning is warranted to optimize e-learning participation.

Take Home Messages: Suboptimal participation poses a potential pitfall of non-obligatory education

methods such as e-learning. Increasing autonomous motivation may be recommended.

#3N4 (133654)

Simulating multiprofessional decision making on prescribing errors - a thematic analysis of pharmacy student perception of behaviours in interprofessional working

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Background: A large cohort of final year medical and pharmacy students took part in a simulation of clinical practice using an e-prescribing system to manage mock patient cases. Case studies were written by a multiprofessional team and presented common legal and clinical prescribing issues. Students identified safety issues within inpatient and discharge prescriptions, had to discuss and action a solution, while subject to time pressures. Problems were communicated using both telephone and face-to-face interactions.

Summary of Work: Pharmacy students were provided with an evaluation questionnaire consisting of open questions investigating working across professional boundaries and decision-making. Data were analysed thematically.

Summary of Results: 130 (92%) of pharmacy students completed the questionnaire. Benefits of utilising different professional skills and approaches were highlighted: "How to apply each health care professional's strengths in order to solve the case". Clarification of professional roles, confidence and ability to make decisions and ability to effectively communicate was identified: "Understanding my role and limitations within a multidisciplinary team"; "Confidence in making decisions and communicating them". "I learnt about the importance of clear communication." Simulation brought home professional responsibility: "Having to make decisions / recommendations and being responsible for patient's health."

Discussion: Professionals need to understand their skills and strengths, and have confidence to voice them for effective multiprofessional team working. By taking part in the simulation, students were able to identify the value of multiprofessional working, their professional strengths, build confidence in engaging with other professionals, and identify methods to make their contribution successful.

Conclusion: Multiprofessional simulation allows students to practise and reflect on the skills required to engage with the multiprofessional team.

Take Home Messages: Real life professional simulation allows students to reflect on the skills required to work in an effective multiprofessional team, enhancing patient care.

#3N5 (135253)

Preparing medical students for primary care prescribing practice with the aid of technology to enhance learning

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Background: Final year undergraduate medical students are required to pass a National Prescribing Safety Assessment (PSA). Workshop sessions were designed to involve the use of iPad applications that enhance learning and in-session assessment in order to prepare the students for the PSA. The sessions focused on the use of interactive case studies (Nearpod) and an OSCE workshop using augmented reality (Junaio).

Summary of Work: Students were invited to submit evaluation of the sessions with quantitative scores and qualitative feedback, which were collated anonymously at the end of each session. A response rate of 100% was achieved. A total of 23 workshops were held. Student numbers ranged from 12 – 24 per session.

Summary of Results: Overall the session was well received and students felt learning objectives were met. The majority of comments regarding the use of technology were positive, especially for Nearpod, although students felt that augmented reality added less value to the session. “Excellent use of technology, useful and helpful for community attachment and general for life” “Getting immediate feedback with Nearpod was helpful” “Simplify the Junaio app”

Discussion: When evaluating using the Kirkpatrick model, the session worked well. Nearpod was a success, particularly contributing to interaction within the session. The ability to provide immediate feedback on informal in-session assessment was deemed to be a valuable asset. Observation of student performance could clearly be seen to improve throughout the workshop.

Conclusion: Upcoming student performance in the national PSA and our local OSCE assessments will show whether our session has provided improvement in student knowledge compared to previous year performance.

Take Home Messages: Incorporation of interactive technology provides enjoyable teaching sessions. Whether this translates into better performance in local and national examinations and into professional practice remains to be seen.

#3N6 (132772)

Auditing the prescribing practice of junior doctors as a near peer auditor – a teaching and learning experience

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Background: Opioids have been identified as a high risk medicine worldwide. Locally an education program has been introduced to improve opioid prescribing by junior doctors. With the supervision of the quality pharmacist I joined the research team as a near peer auditor of prescribing practice, pre and post the intervention.

Summary of Work: This presentation reports on the audit outcome of an educational intervention and also my experience as an auditor, developing an audit strategy, delivering near peer feedback, working within a interprofessional education team, and the impact on my own professional development.

Summary of Results: The prescribing audit showed a reduction in prescribing errors in oral morphine prescribing from 4/30 to 1/20, and 13/17 to 1/10 for IV morphine, indicating a significant reduction in prescribing errors following the teaching program. The audit improved my personal prescribing practice, my ability to give feedback to near peers, presentation skills and how to work within an interprofessional team.

Discussion: A near peer audit can be an educational tool for understanding the needs of peers and aiding their professional development as well as teaching the auditor essential professional skills and improving knowledge within the relevant field.

Conclusion: There is an opportunity to improve professional skills and involve junior doctors in identifying their weaknesses and work alongside a interprofessional team to shape their own ongoing education.

Take Home Messages: The use of near peer auditing as an education tool is effective improving personal practice, developing professional skills and providing useful support for near peers and the interprofessional health team, allowing for a more practitioner directed approach to continuing medical education.

#3N7 (135602)

Exploring the impact of formalised prescribing error feedback

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Background: Prescribing errors (PEs) are an endemic problem in healthcare with prevalence estimated at up to 50%. Error causation is complex with lack of PE feedback considered a contributing latent condition. The aims of this research are to explore the views of Pharmacists towards PE feedback and the impact of feedback on PE rates and Prescribers.

Summary of Work: Prospective prescribing audits were completed at the beginning and end of a three month prescriber rotational period for control and intervention wards. Prescribers received feedback on PEs in-between audit periods. PE data were analysed using an independent t-test. 24 Pharmacists were recruited into one of four focus groups. Twenty prescribers who had received feedback were interviewed individually. Interviews were transcribed and analysed using a thematic framework approach.

Summary of Results: Mean PE rates were significantly lower in the intervention group following feedback (mean difference 19.7%, $p < 0.05$, $d = 0.7$). Pharmacists recognised that feedback on PEs was essential to learn from mistakes and reduce PEs. However, delivery of feedback appeared to be inconsistent and mainly directive with communication anxieties with prescribers also reported. Prescribers welcomed and valued feedback, advocating its role in facilitating reflection and supporting their development. Pharmacists were considered credible facilitators of feedback.

Discussion: The work has involved a change in hospital practice and in some cases a change of culture, but it seems these changes are worthwhile. If this is to be taken further then pharmacists may need to have more training in giving feedback and more time allowed for giving and receiving feedback.

Conclusion: Early results are promising with positive impacts on PE rates and prescribers themselves. Further work is necessary to determine reproducibility, sustainability and the impact of feedback on specific error types and Pharmacists who deliver the structured feedback.

Take Home Messages: Allowing pharmacists to give feedback to prescribers can reduce prescribing error rates.

#3N8 (135571)

Developing practical prescribing skills during the undergraduate medical course - views from 1023 medical students

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Background: Junior doctors are responsible for the majority of prescribing at NHS hospitals in the UK. Newly qualified junior doctors have expressed concerns over their lack of preparedness to undertake complex tasks such as prescribing.

Summary of Work: Following ethical approval, an online questionnaire was sent to each UK medical school for dissemination to medical students in years 3, 4 and 5. Analysis, primarily descriptive statistics, was completed using SPSS and Microsoft Excel. Participation was voluntary.

Summary of Results: 1023 medical students responded from 25 medical schools, including 41% in final year ($n = 420$), 37% in fourth year ($n = 378$), and 22% in third year ($n = 225$). Only 36.4% of students believe that their medical degree prepares them sufficiently for practical prescribing ($n = 372$, 95% Confidence Interval [CI] = 32-41%). Over half of the students believe that teaching of practical prescribing should commence in phase one (years 1 and 2) of the curriculum (52.6% $n = 538$, CI = 48-57%). 73.7% of students opine that undergraduate teaching of practical prescribing should be standardised across all medical schools ($n = 754$, CI = 71-77%). The majority were aware that they may need to sit a Prescribing Safety Assessment [PSA] (86.5%, $n = 885$), and there was a perception that preparing for this assessment improves practical prescribing skills ($n = 690$, 67.4%).

Discussion: This is a snapshot of the current situation in UK medical schools. Students recognise that current teaching and learning of practical prescribing in UK medical schools is suboptimal. There is a perception that the PSA positively impacts on practical prescribing skills.

Conclusion: Introduction of practical prescribing teaching into Phase 1 of the curriculum, and utilisation of a standard approach across medical schools might be more beneficial according to students.

Take Home Messages: With the palpable reality of full registration moving to the point of graduation, the exploration of a standard approach to the teaching and learning of practical prescribing is timely.